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DECEMBER 6.

Mr. THOMAS MEEHAN, Vice-President, in the chair.

Twenty-six persons present.

The death of Evan Randolph, a member, was announced.

The origin of the Grassy Prairies.—Mr. Meehan said that in 1871 he had offered to the Academy some facts to show that the views of the origin of the prairies, at that time generally accepted, could not be sound, and he then suggested some points that must have had considerable influence in bringing about this tree-less condition. Among these points, he had named the annual prairie fires of the Indians. Given a sheet of grass to be annually burned over, and forests flanking it, trees, obviously, could not extend far. Young sprouts from a tree stump would not flower. It took a seedling tree or sprouts from a stump to persist in growth for a number of years before its flowering stage is reached. Hence, though trees should spring up on a grassy prairie, the annual burning to the ground preventing the sprouts from reaching maturity, would be an insuperable bar to the surrounding forests encroaching far on the area of the prairie.

A further consideration, since that time, made it evident, that tree seeds could scarcely get a chance to grow at all in these grassy places. He had studied the so-called "balds" or open grassy places on mountain tops and sides, surrounded on all sides by forests, where there had been no annual fires, and yet no trees. He referred particularly to such spots on Roan Mountain, North Carolina. There would be open spaces covered by a thick matted sod, the chief grass composing it being *Danthonia compressa.* Spruce, Fir, Oak, and representatives of other genera surrounded them on all sides. Though the trees may have been fifty or even a hundred years old, the grassy outline had evidently been definitely fixed years back, and had not since been encroached upon until these later times. Since cattle had been permitted to browse, young trees could be seen here and there springing up. If the browsing continued, trees would eventually cover the balds. In the past, seeds falling on the thick matted grass, could not grow. There would be too much light and too little moisture, so far from the ground. Should a seed sprout under such circumstances, the radicle would dry up before it pushed through the thick mass of grass to the necessary earth. Browsing cattle kept down the grass, and gave the seeds a chance to reach the ground, and their hoofs would often make the ground bare, and even tread the seeds beneath the surface. Though eaten to the ground, the trees would sprout again,—some get stronger and larger,—and some eventually get to be trees, finally shading and killing out the light-loving grass. While annual fires certainly prevented trees spreading over grassy areas, we could now account for their non-existence, even as young seedling plants.

Our own prairies afforded evidence of the soundness of these views. There would often be seen elevated peninsular-like arms stretching from the woody area into the grassy basins, or even little islands of elevated ground in the midst of the flat sea of soddy land, covered by trees of various kinds. These elevations by reason of drouth, lighter soil, or other special conditions, were unfavorable for the growth of the thick mass of herbaceous vegetation that possessed the land below. The seeds could not only sprout and become trees, but the absence of much grassy undergrowth saved them from serious effects from fire on lower prairie ground.

There could be no doubt these considerations fully accounted for the perpetuity of the grassy areas, and the inability of the forests to encroach thereon.

If we are now asked how these extensive areas were given over to grass in the first place, we may safely reply that the trees were not there to dispute with it for the possession of the ground, or they would have conquered. We may imagine the prairie region as in a state of transition from the paludose to the limose state, with ligneous or arborescent vegetation on the higher lands, many miles away. The tufty grasses would undoubtedly take possession long before their woody neighbors could come down from the hills and spy out the land. The struggle for life would be at the boundaries where the two forces met. The trees could not gain rapid advances, but by the overshadowing of their branches would weaken the grass beneath, and thus, by slow approaches, gradually conquer their weaker neighbors. In meadows, where cattle kept the coarse grass down, or where briars or light bushes kept tough grass from spreading, or where the ground was too gravelly or sandy or the native grasses not of a close tufty character, trees found no obstruction whatever in their endeavor to take possession of the soil.

DECEMBER 13.

The President, Dr. JOS. LEIDY, in the chair.

Twenty-three persons present.

Bot-larvae in the Terrapin.—Prof. LEIDY remarked that the habits of a naturalist often led him to observe things in our daily life which usually escape the notice of others. In our food he had frequent occasion to detect parasites which he preferred to reject but which are unconsciously swallowed by others. While he liked a herring, he never ate one without first removing the conspicuously coiled worms on the surface of the rows; and he had repeatedly extracted from a piece of black bass or a shad a thread worm which others would not distinguish from a vessel or a nerve. While he did not object to the little parasitic crab of the oyster, he made it a point to remove the equally frequent leech from the clam. It was in a piece of ham, he was eating, that he first